USACHPPM
Readiness thru Health

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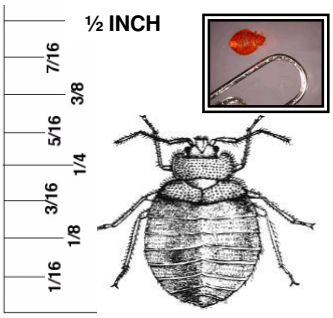
Just the Facts...

Bed Bugs

It is still true that bites that occur while people are sleeping are more likely to be from spiders than from bed bugs. However, it is also a fact that after declining in incidence through the mid 20th century, bed bugs have undergone a dramatic resurgence. Worldwide, there are reports of increasing numbers of infestations. In the past, the presence of bed bugs was thought to be related to poor housekeeping. Today, this is not necessarily the case. Bed bugs can get established inside a dwelling when an infested piece of furniture or luggage is moved into the home, and some bed bug infestations originate from bird nests and bat roosts. Bed bugs are secretive insects, and only after their hiding places have been located, can effective control measures be implemented.

Q. ***What are bed bugs?***



Adult bed bugs are oval, wingless, 1/4 to 3/8 inch (4-5 mm) long and rusty red or mahogany in color.

A. Bed bugs are in the insect family Cimicidae and include more than one species that attack people. All bed bugs have 6 legs; ticks and spiders have 8 legs. Bed bugs are sometimes called "red coats," "chinches," or "mahogany flats." Adult bed bugs are oval, wingless, 1/4 to 3/8 inch (4-5 mm) long and rusty red or mahogany in color. When full of blood, their body becomes swollen and the color changes to dark red. Female bed bugs lay their eggs in secluded areas, depositing up to 5/day and 500 during a lifetime. Newly hatched bugs (nymphs) are similar to the adult except they are much smaller and almost colorless. Bed bugs grow by molting. Each nymph must have a blood meal to be able to molt to the next stage. Adults feed once a week on the average, but will feed many times during their life span of four months or longer.

Q. ***Should I be concerned about bed bug bites?***

Bed bug bites tend to occur around the upper body on the face, neck, hands and arms.

A. Bed bugs usually feed at night when people are asleep. They will bite all over a human body, especially around the face, neck, upper torso, arms and hands. Individual bed bugs need 3 – 15 minutes to feed. Both male and female bed bugs bite. Bed bugs feed mainly on the blood of humans, but also suck blood from other animals, including birds and bats. There are currently no known cases of disease associated with bed bug bites.

Bed bugs suck blood from their host with piercing mouthparts that contain two stylets: one stylet has a groove that carries saliva into the wound (to prevent coagulation of the blood), while the other has a groove through which blood is drawn. The act of biting is usually not felt, but later there is an allergic reaction to the protein found in the bed bug's saliva. A colorless wheal or lump develops at the bite location (in contrast, flea bites have reddish centers and occur mainly around the ankles). Scratching the bitten areas may lead to infection. Discomfort from bed bug bites may last a week or more. Bedbug bites do not usually require any treatment. Apply local antiseptic lotion or antibiotic cream or ointment if secondary infection occurs.

Bed bugs feed on human blood and also suck blood from other animals, including birds and bats.

Reaction to bed bug bites depends on the individual. Bites can be painless and undetectable in some people, but others may be quite sensitive to bites. People who are more sensitive to the bite can have localized allergic reactions. Some people who suffer numerous bites can develop a "sensitivity syndrome," which can cause nervousness, lethargy and pallor.

Q. ***Is there more than one type of bed bug that will bite humans?***

A. All members of the bed bug family are very similar in appearance and feed on the blood of birds or mammals. The two main species that bite humans include the common bed bug (*Cimex lectularius*), and the tropical bed bug (*Cimex hemipterus*). *Cimex lectularius* is a cosmopolitan species, most frequently found in the northern temperate climates of North America, Europe, and Central Asia. In Florida and tropical regions it is replaced by *C. hemipterus.* The chimney swift bug (*Cimexopsis nyctalis*), and the swallow bug (*Oeciacus vicarius*), feed primarily on birds. However, they can occasionally be pests in houses when the birds are nesting in or around the home. The Eastern bat bug (*Cimex adjunctus*) and Western bat bug (*Cimex pilosellus*) come into homes in the spring with colonies of bats. Bird and bat bugs will be found in the living quarters of homes in many of the same places as common bed bugs, but the source of the infestation is located within walls or attic areas.

U.S. Army Center for Health Promotion and Preventive Medicine
Entomological Sciences Program
5158 Blackhawk Road, Aberdeen Proving Ground, MD 21010-5403
DSN 584-3613; CM (410) 436-3613

Q. ***How do bed bugs get into dwellings?***

A. It may seem that a bed bug infestation arises from nowhere. Since bed bugs are wingless, they must crawl or be carried from infested areas to uninfested areas. Occasionally, common bed bugs may be picked up in theaters, or on buses and trains, but usually they become established in structures when they hitch a ride in boxes, baggage, furniture, bedding, laundry, and, in and on clothing worn by people coming from infested sites. They may also migrate between homes via wires, plumbing or rain gutters. Once inside a dwelling, bed bugs hide in cracks and crevices, close to areas where people sleep.

Q. ***What are the things I can do to prevent bed bugs from getting into my home or quarters?***

A. Indirect, proactive measures can go a long way in preventing bed bugs from gaining access to the inside of a dwelling. Exclude bats from roosting in the building. Remove swift and swallow nests while the birds are in the process of nest-building (since these birds and many bats are protected animals, no action can be taken directly against them that may cause them harm). Remove debris from around the house, repair cracks in walls, and caulk windows and doors. Be wary of acquiring rental or secondhand beds, bedding, and furniture, and at a minimum examine these items carefully before they are brought into a dwelling. If staying in temporary quarters in countries where bed bugs are prevalent, elevate luggage off the floor. When returning from TDY during the summer months, before unpacking, seal clothing and luggage inside a black plastic bag, and set them outside in the sun for a day (bed bug eggs, nymphs, and adults will be killed when exposed to temperatures of 115° F (46° C) for 15 minutes). Infested clothing and luggage can also be set outside during cold weather to kill all stages of bed bugs. At 0° F (-18° C), two days is sufficient to kill bed bugs while four to five days is required when the temperature is about 20° F (-7° C).

Bed bugs often congregate along the seams of mattresses and box springs.

Q. ***What do I look for when I suspect a bed bug infestation?***

A. At the beginning of an infestation, bed bugs are likely to be found only in the tufts, seams, and folds of mattresses and bed covers. Look for black and brown spots of dried excrement (composed primarily of blood); this can help pinpoint bed bug hiding areas. Sometimes a distinctive sweetish odor may be detected. In hotels and motels, the area behind the headboard is often the first place that the bugs become established. Later, they spread to cracks and crevices in the bedframe. If allowed to multiply, during the daytime hours they can be found hiding along edges of carpeting, behind baseboards, window and door casings, pictures, and moldings, and in furniture, loosened wallpaper, and cracks in plaster and partitions. It is not unusual to find bed bugs inside clocks, phones, televisions, computers, and smoke detectors.

Dark spots of bed bug excrement on a mattress.

Q. ***What can I do to get rid of bed bugs in my home or quarters?***

A. Nonchemical Approaches. Consult with Preventive Medicine Activity personnel at your supporting clinic to confirm that you have bed bugs and/or obtain identification of any bed bug-like insects found inside the dwelling. Perform daily monitoring by setting out glue boards or sticky tape (placed along the foot of the bed) to catch the bed bugs. Proper identification of specimens is essential to devise an effective treatment strategy and to establish whether bats, swallows, chimney swifts or other wild animals are involved. Inspect your mattress and bed frame, particularly the folds, crevices and the underside, and other locations where bed bugs like to hide. Use a nozzle attachment on the vacuum to capture the bed bugs and their eggs. Vacuum all the crevices on your mattress, bed frame, baseboards and any objects close to the bed. It is essential to vacuum daily and empty the vacuum immediately. Wash all your linens and place them in a hot dryer for 20 minutes. Consider covering your pillows and mattress with a plastic cover.

A. Chemical Approaches. Pesticides are an important tool for bed bug elimination. Insecticides can be applied to cracks and crevices of dressers, wooden bed frames and headboards, door and window trim, baseboards and similar sites. Some products can provide long-lasting control inside a dwelling if they are carefully and thoroughly applied to all bed bug harborages. Consideration should be given to the fact that people typically spend in excess of 8 hours per day in the bedroom. If the insecticides are properly applied, there should be little risk of exposure. Always seek the assistance of the Installation Pest Control Office before applying pesticides for bed bug control inside a dwelling.

Q. ***Where can I get more information on bed bugs?***

A. Contact the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM), Entomological Sciences Program, Aberdeen Proving Ground, Maryland 21010-5403: DSN 584-3613, CM (410) 436-3613: FAX – 2037; http://chppm-www.apgea.army.mil/ento.

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